

**REMARKS**

Applicant thanks the Examiner for withdrawing the finality of the Office Action dated March 10, 2004, and issuing the new, non-final Office Action dated May 14, 2004.

Claims 1-24 are all the claims presently pending in the application. Claim 1, 2, and 13 are amended merely to make editorial changes.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Claims 1-24 are pending in the present application. Claims 1-24 stand rejected on prior art grounds. With respect to the prior art rejections, claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhang et al. (U.S. Patent No. 6,181,711; hereinafter "Zhang") in view of Duault et al. (U.S. Patent No. 6,108,336; herein after "Duault") and Jones et al. (U.S. Patent No. 6,307,836; hereinafter "Jones"). Claims 2-7, 9-14, and 16-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Zhang, Duault, Jones, and further in view of Grossglauser et al. (U.S. Patent No. 5,604,731; hereinafter "Grossglauser"). Claims 8 and 15 stand

rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhang, Duault, Jones, and Applicant's Admitted Prior Art (AAPA).

These rejections are respectfully traversed in the following discussion.

## **I. THE CLAIMED INVENTION**

The claimed invention, as defined, for example, by claim 1, is directed to a statistical multiplex transmission system for use in a network which includes a first local area ATM network including a plurality of first terminal devices, a second local area ATM network including a plurality of second terminal devices, and a public ATM network connected to the first and second ATM networks.

The invention includes a first multiplex gateway device for connecting the first local area ATM network and the public ATM network, and a second multiplex gateway device for connecting the second local area ATM network and the public ATM network. The first and second multiplex gateway devices receive ATM transmission signals from the first and second local area ATM networks, respectively. A statistical multiplexing process of the ATM transmission signals generates transmission statistical multiplex signals and transmits the signals to the public ATM network.

In the invention as defined by dependent claim 2, the first and second multiplex gateway devices transmit the transmission statistical multiplex signals by a piece-wise constant bit rate transmission system, which has a piece-wise constant bit rate after the

statistical multiplexing process, and which varies in a predetermined time interval.

In the present invention (as defined, for example, by dependent claim 7), a multiplex transmission is effectively performed by re-negotiation to the transmission path.

Conventional image transmission terminals that transmit a variable bit rate image over ATM merely connect to an ATM network independently. Therefore, a statistical multiplex effect cannot be imparted to the image signal that is outputted from a conventional transmitter.

The claimed invention, on the other hand, provides a statistical multiplex transmission system that is capable of obtaining a statistical multiplex effect in an image transmission system including multiple terminals on both ends. The invention can acquire both statistical multiplexing gain and re-negotiation gain in comparison with discrete connections between individual terminals of the conventional system (e.g., see specification at page 8, lines 15-24).

## **II. THE PRIOR ART REJECTIONS**

Claim 1 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhang in view of Duault and Jones. For at least the following reasons, Applicant respectfully submits that there are elements of the claimed invention which are neither taught nor suggested by the Examiner's urged combination of references, and therefore, Applicant respectfully traverses this rejection.

Applicant's remarks submitted in the Amendment under 35 U.S.C. § 1.111 filed on May 28, 2003 are incorporated herein by reference, for the Examiner's convenience.

In the Response to Arguments, the Examiner identifies that Zhang (at Column 6, lines 49-55) discloses that "[t]he *transmission system (204)* may be any one of a number of conventional transmission systems, including by not limited to A[DSL], ATM/ADSL, ATM, ISDN links...." The Examiner alleges that "[t]his statement clearly suggests the possibility of such a contrivance as a system combining ATM and DSL features" (emphasis added). The Examiner also alleges that Jones "*plainly includes features undeniably related to ATM such as available bit rate (ABR), variable bit rate (VBR) and constant bit rate (CBR)*" (citing Jones at column 4, lines 38-28).

Applicant respectfully disagrees with the Examiner's position for several reasons.

First, Applicant respectfully submits that the Examiner's alleged motivation for combining the cited references to arrive at the claimed invention is unreasonable in view of specific teachings in the Jones reference which teach away from (i.e., are contrary to) the Examiner's stated motivation for combining the references. That is, when taken as a whole for what it fairly would have taught to an ordinarily skilled artisan at the time of the invention, Jones does not provide the motivation for which it is relied upon (i.e., Jones teaches away from the alleged combination).

For example, in the Background of the Invention, Jones discloses that access to each additional service requires additional hardware and software at both the network carrier and customer subscriber ends. Moreover, additional transmission facilities are required between the network and subscriber ends of the loop. Both vendors and customers must deploy multiple systems to support multiple services, resulting in additional cost to service to the customer (see Jones at column 3, lines 57-64). Jones indicates this is not a good thing.

Jones goes on to specifically state, that “[a]nother approach has been tried to address this need. This approach uses ATM from the network to the customer. This approach requires additional expense per line.” (see Jones at column 3, lines 65-67).

In contrast, the Examiner relies on Jones for the motivation to combine the references, stating that “[o]ne would have been motivated to do so for economical benefits to both consumers, located at the customer premises networks, and to the carrier providing access to the public ATM network” (see Office Action at page 6, lines 16-18; emphasis added).

However, Applicant respectfully submits that the teachings of Jones, when taken as a whole, clearly contradict the Examiner’s stated motivation, and frustrate the purpose of the other references, as well as the invention. Thus, the Office Action has not established a reasonable motivation for combining the references to arrive at the claimed combination.

Indeed, subsequent to specifically stating, in the Background of the Invention, that attempts to use ATM would require additional expense per line, Jones does not even mention ATM at any other location in the Detailed Description of the Invention, with the sole exception of mentioning that Q.2931 “describes control functionality for broadband ISDN or ATM” (see Jones at column 10, lines 23-24). However, Jones appears to mention Q.2931 merely because it applies to ISDN, which includes DSL (i.e., ISDN BRI) (see Jones at column 2, lines 1-15), not because ATM is being used. On the contrary, Jones does not disclose the use of ATM in its invention.

In other words, when considered as a whole for what it fairly teaches, Applicant respectfully submits that Jones does not disclose or suggest that combining DSL and ATM would lead to economic savings to the customer and carrier, as alleged.

Moreover, as evidenced by Jones, available bit rate (ABR), variable bit rate (VBR), and constant bit rate (CBR) are not limited to use with ATM, but instead, can be used with DSL, or any number of other systems. That is, Jones clearly discloses that available bit rate (ABR), variable bit rate (VBR), and constant bit rate (CBR) also are undeniably related to DSL, among other systems.

Thus, the mere mention of these services in the Jones reference clearly does not imply or suggest the exclusive use of ATM, or for that matter, any use of ATM at all, let alone the structure and connections of the claimed combination. Instead, when considered as a whole for what it fairly teaches to a person of skill in the art, Jones clearly discloses the use of ABR, VBR, and CBR with a DSL system.

Second, Applicant respectfully submits that merely showing that it is possible to combine the references is not enough to establish *prima facie* obviousness of the claimed invention.

That is, as the Examiner surely knows, merely identifying the individual elements of the claims in separate references is not sufficient to establish the obviousness of the claims. The Office Action must establish a reasonable motivation or suggestion, in the references themselves or in the art in general, for combining the references to arrive at the claimed invention.

Moreover, the mere fact that references can be combined or modified is not sufficient to establish *prima facie* obviousness (see M.P.E.P. § 2143.01). There must be a reasonable motivation to do that which the patent applicant has done.

In the Response to Arguments, the Examiner states that “*it is obvious that anyone of ordinary skill in the art could easily have combined the inventions of Zhang et al., Duault et al. and Jones et al.*”

However, Applicant respectfully submits that the Examiner has not established *why* a person of ordinary skill in the art would have combined Zhang, Duault and Jones to arrive at the claimed invention.

That is, obviousness requires that a person of ordinary skill in the art would have been motivated to combine the references, not merely that the references *could* have been combined (i.e., are capable of being combined).

Thus, irrespective of whether the references *could* have been combined, without a reasonable suggestion or motivation to do that which the inventor has done, it would not have been obvious to combine the references to arrive at the claimed invention, absent impermissible hindsight.

Third, the references cannot be combined where the references teach away from their combination (e.g., see M.P.E.P. § 2145).

As mentioned above, in discussing ATM, Jones specifically states that approaches using ATM require additional expense per line, and thus, Jones clearly teaches away from the use of ATM.

Thus, for at least the foregoing reasons, Applicant respectfully submits that it would not have been obvious to combine Zhang, Duault and Jones to arrive at the novel and unobvious combination of elements recited in the claimed invention, and therefore, respectfully requests that the Examiner withdraw the rejection of independent claim 1.

Claims 2-7, 9-14, and 16-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Zhang, Duault and Jones, and further in view of Grossglauser.

As mentioned above, Applicant respectfully submits that it would not have been obvious to combine Zhang, Duault and Jones to arrive at the novel and unobvious combination of elements recited in independent claims 1, 13, and 20.

On the other hand, Applicant respectfully submits that Grossglauser also does not provide the requisite motivation or suggestion for combining the references.



Indeed, Grossglauser is not even relied upon for this reason, but rather, merely to show a renegotiating bit-rate service system and method.

Moreover, Grossglauser does not make up for the deficiencies of the claimed invention.

Applicant also submits that Zhang, Duault, Jones and Grossglauser, either alone or in combination, do not disclose or suggest all of the features of the claimed invention.

For example, in the present invention (as defined, for example, by dependent claim 7), a multiplex transmission is effectively performed by re-negotiation to the transmission path.

Thus, Applicant respectfully submits that claims 2-7, 9-14, and 16-24 would not have been obvious over Zhang, Duault, Jones and Grossglauser, either alone or in combination. Therefore, Applicant respectfully requests that the Examiner withdraw this rejection and permit these claims to pass to allowance.

Claims 8 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Zhang, Duault, Jones and AAPA.

As mentioned above, Applicant respectfully submits that it would not have been obvious to combine Zhang, Duault and Jones to arrive at the novel and unobvious combination of elements recited in independent claims 1 and 13, from which claims 8 and 15 depend.

On the other hand, Applicant respectfully submits that Applicant's Admitted Prior Art (AAPA) (i.e., Figure 1) also does not provide the requisite motivation or suggestion for combining the references. Indeed, the AAPA is not even relied upon for this reason, but rather, merely to show the use of H.310 compliant terminal devices.

Thus, Applicant respectfully submits that claims 8 and 15 would not have been obvious over Zhang, Duault, Jones and the AAPA, either alone or in combination. Therefore, Applicant respectfully requests that the Examiner withdraw this rejection and permit these claims to pass to allowance.

To summarize, Applicant reiterates that the deficiencies identified concerning ITU-T recommendation H.310 (Broadband audiovisual communication systems and terminals) have not been solved until the present invention.

The claimed invention receives a plurality of variable rate encoded application data streams and creates an efficient multi-channel transmission service using "said first and second multiplex gateway devices" to "receive transmission ATM signals from said first and second local area ATM networks," and perform "a statistical multiplexing process of said transmission ATM signals to generate transmission statistical multiplex signals, and transmitting said transmission statistical multiplex signals to said public ATM network," as described in claim 1 (emphasis added).

Methods for preventing data loss and maximizing the use of channel bandwidth do not teach or suggest the claimed invention. Both Zhang and Duault disclose methods to prevent delay and data loss within ATM networks.

The advantages of the novel and unobvious combination of elements of the claimed invention stem from the combination of connecting a plurality of image transmission terminals to a local ATM network, and subsequently connecting to a public ATM network, which also is connected to another local ATM network, where the statistical multiplexing gain and re-negotiation gain are performed, which is in stark contrast to the conventional systems in which image channels are discretely connected one by one between individual terminals.

For at least the foregoing reasons, Applicant respectfully submits that independent claims 1, 13, and 20, taken as a whole, are neither disclosed nor suggested by the alleged combination.

For example, the cited references, either alone or in combination, do not disclose or suggest a statistical multiplex transmission system for use in a network which includes a first local area ATM network including a plurality of first terminal devices, a second local area ATM network including a plurality of second terminal devices, and a public ATM network connected to said first and second ATM networks, as defined by independent claim 1, comprising:

a first multiplex gateway device for connecting said first local area ATM network and said public ATM network; and  
a second multiplex gateway device for connecting said

second local area ATM network and said public ATM network,

wherein said first and second multiplex gateway devices receive transmission ATM signals from said first and second local area ATM networks, respectively, and performing a statistical multiplexing process of said transmission ATM signals to generate transmission statistical multiplex signals, and transmitting said transmission statistical multiplex signals to said public ATM network (emphasis added).

Moreover, the cited references, either alone or in combination, do not disclose or suggest a method for statistical multiplex data transmission in an asynchronous transfer mode (ATM) network, as defined by independent claim 20, comprising:

connecting a first local area ATM network to a plurality of first terminal devices;

connecting a second local area ATM network to a plurality of second terminal devices;

connecting a public ATM network to said first and second ATM networks;

connecting a first multiplex gateway device to said first local area ATM network and said public ATM network;

connecting a second multiplex gateway device to said second local area ATM network and said public ATM network;

receiving ATM transmission signals from said first and second local area ATM networks into said first and second multiplex gateway devices, respectively; and

performing a statistical multiplexing process of said ATM transmission signals to generate transmission statistical multiplex signals, and transmitting said transmission statistical multiplex signals to said public ATM network,

wherein said first and second multiplex gateway devices transmit said transmission statistical multiplex signals by use of a piece-wise constant bit rate transmission system with a transmission rate that varies in a predetermined time interval after the statistical multiplexing process (emphasis added).

For at least the foregoing reasons, Applicant respectfully submits that the urged combinations of references fail to disclose or suggest every feature of claims 1-24, and therefore, claims 1-24 are fully patentable over the cited references.

Based on the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections.

### **III. FORMAL MATTERS AND CONCLUSION**

The Office Action acknowledges that the IDS filed on July 24, 2002 included a concise explanation of relevance with regard the “1994 Electronic Information communication Association; spring conference B-765” and that such a reference has been considered. However, Applicant notes that a signed and initialed PTO-1449 form has not been provided officially indicating such consideration, and therefore, respectfully requests that same.

With respect to the other references (i.e., JP 690236 and 9-8838) cited in the IDS filed on July 24, 2002, the Examiner alleges that a concise explanation of these references has not been provided. However, Applicant respectfully submits that, since these references were cited in the foreign Office Action, but clearly not applied by the Examiner, the relevance of these references clearly is apparent (i.e., these references were cited but not applied).

Thus, Applicant respectfully submits that the IDS filed on July 24, 2002, together with the translation of the relevant portions indicating the degree of relevance

of the foreign reference cited in the foreign Action/Search Report, fully complied with M.P.E.P. §609 and 37 C.F.R. §§1.97-1.99 regarding the submission of foreign language documents.

Thus, the Examiner respectfully is requested to consider to the extent possible and to make of record the Japanese references submitted in the IDS filed on July 24, 2002 and listed on the PTO-1449 form.

However, for the Examiner's convenience only and not for making up any alleged deficiencies of the IDS, Applicant submits herewith English language Abstracts of the subject references. Hence, the Examiner respectfully is requested to consider and initial the PTO-1449 Form listing each of the references cited in the foreign search report. Also, for the Examiner's convenience, a copy of the PTO-1449 Form (as filed with the July 24, 2002 IDS) is submitted herewith.

In view of the foregoing, Applicant submits that claims 1-24, all the claims presently pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

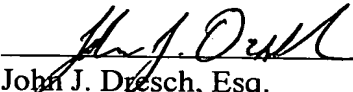
U.S. Application No. 09/522,608  
Docket No. WN-2155  
(GOT.35)

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The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

Respectfully Submitted,

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